

ABSTRACT

A flip-chip micromechanical device and process in which one module of a flip-chip device is stabilized in the substrate-free condition to a degree permitting its successful combination with a second module of the flip-chip device without the benefit of a supporting but interfering substrate element. An etch plate header and coupling tethers provide supporting rigidity to the substrate removed module during its manipulation sequence. Locking of the substrate-free module into a manipulation tolerant and manageable, even by hand, cantilevered status is included. Simplified off chip fabrication of MEMS devices in low cost facilities having only basic alignment equipment is supported by the invention.